

Sequence listing

<120> METHOD AND DETECTOR FOR IDENTIFYING SUBTYPES OF HUMAN PAPILLOMA VIRUSES

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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 123

atatgacggt ctaaag

16

<210> SEQ ID NO 124
<211> LENGTH: 22
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 124

tatatgttgg ggaaatcagc ta

22

<210> SEQ ID NO 125
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 125

cactgcaaca tctggtgata

20

<210> SEQ ID NO 126

<211> LENGTH: 30

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 126

gcaacatctg gtgatacata tacagctgct

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<211> LENGTH: 23

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 127

cattaactgt tgaagttatg tca

23

<210> SEQ ID NO 128

<211> LENGTH: 26

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 128

cctaacatat tagaggagtg gaatgt

26

<210> SEQ ID NO 129

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 129

caccaccacc ttcaggact

20

<210> SEQ ID NO 130

<211> LENGTH: 24

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 130

gttataggta tgtacaatca gaag

24

<210> SEQ ID NO 131

<211> LENGTH: 30

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 131

gctaaggtaa caacgccaga aaaaaaggat

30

<210> SEQ ID NO 132

<211> LENGTH: 24

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 132

cagacttttg gttttgggag gtaa

24

<210> SEQ ID NO 133

<211> LENGTH: 21

<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 133

gaaaagtgtt ctactgtatt a 21

<210> SEQ ID NO 134
<211> LENGTH: 22
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 134

catttgtttt gggaatcagt tg 22

<210> SEQ ID NO 135
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 135

tgaccctact gtgcccgta 20

<210> SEQ ID NO 136
<211> LENGTH: 30
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 136

actgtgcccc gtacatatga caatgcaaag 30

<210> SEQ ID NO 137
<211> LENGTH: 23
<212> TYPE: DNA
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<400> SEQUENCE: 137

gtttatattt caattatgca taa

23

<210> SEQ ID NO 138
<211> LENGTH: 21
<212> TYPE: DNA
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<400> SEQUENCE: 138

ccagaggtta tgacatatat t

21

<210> SEQ ID NO 139
<211> LENGTH: 23
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 139

cccacattat tagaggactg gaa

23

<210> SEQ ID NO 140
<211> LENGTH: 21
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 140

ccacctgcct ctgcttcttt g

21

<210> SEQ ID NO 141
<211> LENGTH: 25
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 141

cgctttttgt ctaacaaggc cattg

25

<210> SEQ ID NO 142
<211> LENGTH: 23
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<400> SEQUENCE: 142

ccaaaggaac gggaggatcc cta

23

<210> SEQ ID NO 143
<211> LENGTH: 25
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 143

cttacagaaa agttttctgc acaac

25

<210> SEQ ID NO 144
<211> LENGTH: 15
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 144

tgccactaca cagtc

15

<210> SEQ ID NO 145

<211> LENGTH: 20

<212> TYPE: DNA

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ctacacagtc cctccgtct

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<210> SEQ ID NO 146

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 146

tgccactaca cagtcacctc

20

<210> SEQ ID NO 147

<211> LENGTH: 22

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 147

cagtcacctc cgtctacata ta

22

<210> SEQ ID NO 148

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 148

ctacatatac tagtgaacaa

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<211> LENGTH: 23

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 149

tagtattacc ttaacggcgg agg

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<210> SEQ ID NO 150

<211> LENGTH: 19

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 150

tgctggtatt ttagaacag

19

<210> SEQ ID NO 151

<211> LENGTH: 26

<212> TYPE: DNA

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<400> SEQUENCE: 151

gttgtgcgg cccccaaatg gtacct

26

<210> SEQ ID NO 152

<211> LENGTH: 22

<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 152

atacagatat gtgcagtcctc ag 22

<210> SEQ ID NO 153
<211> LENGTH: 19
<212> TYPE: DNA
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<400> SEQUENCE: 153

gccacccctt gaaaaggca 19

<210> SEQ ID NO 154
<211> LENGTH: 16
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 154

ctatgcaaaa ttaagt 16

<210> SEQ ID NO 155
<211> LENGTH: 20
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 155

tgcctctaca caaaatcctg 20

<210> SEQ ID NO 156
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<400> SEQUENCE: 156

ctctacacaa aatcc 15

<210> SEQ ID NO 157
<211> LENGTH: 20
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<400> SEQUENCE: 157

acaaaatcct gtgccaagta 20

<210> SEQ ID NO 158
<211> LENGTH: 20
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 158

caaaatcctg tgccaagta 20

<210> SEQ ID NO 159
<211> LENGTH: 22
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<400> SEQUENCE: 159

aatcctgtgc caagtacata tg 22

<210> SEQ ID NO 160
<211> LENGTH: 20
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<400> SEQUENCE: 160

gtacatatga ccctactaag

20

<210> SEQ ID NO 161
<211> LENGTH: 23
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<400> SEQUENCE: 161

cactattact ttaactgcag agg

23

<210> SEQ ID NO 162
<211> LENGTH: 19
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 162

tagtagtata ttagaaaat

19

<210> SEQ ID NO 163
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<212> TYPE: DNA
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<400> SEQUENCE: 163

tgcccccca ccacctacta caagtt

26

<210> SEQ ID NO 164

<211> LENGTH: 22

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 164

atatcgtttt gtgcaatcag tt

22..

<210> SEQ ID NO 165

<211> LENGTH: 19

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 165

ggatactaca cctccagaa

19

<210> SEQ ID NO 166

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 166

cactgccact gctgcggtt

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<210> SEQ ID NO 167

<211> LENGTH: 15

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 167

tgccactgct gcggt

15

<210> SEQ ID NO 168

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 168

cactgctgcg gtttcccaa

20

<210> SEQ ID NO 169

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 169

ccactgctgc ggtttcccca

20

<210> SEQ ID NO 170

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<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 170

ctgcggtttc cccaacattt ac

22

<210> SEQ ID NO 171

<211> LENGTH: 20

<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 171

caacatttac tccaagtaac 20

<210> SEQ ID NO 172
<211> LENGTH: 23
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 172

taaaattact ttaactacag agg 23

<210> SEQ ID NO 173
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<400> SEQUENCE: 173

tcctaccatt cttgaacag 19

<210> SEQ ID NO 174
<211> LENGTH: 26
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<400> SEQUENCE: 174

attaacatta cctccgtctg ctagtt 26

<210> SEQ ID NO 175
<211> LENGTH: 22
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<400> SEQUENCE: 175

atataggttt gtagaatg ca

22

<210> SEQ ID NO 176
<211> LENGTH: 19
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 176

ggacaccct ccacaggct

19

<210> SEQ ID NO 177
<211> LENGTH: 16
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 177

tttggccaaa tataaa

16

<210> SEQ ID NO 178
<211> LENGTH: 15
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 178

tgagg ttaaa aagga

15

<210> SEQ ID NO 179
<211> LENGTH: 20
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 179

tgaggttaaa aaggaaagca 20

<210> SEQ ID NO 180
<211> LENGTH: 20
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 180

gaggttaaaa aggaaagcac 20

<210> SEQ ID NO 181
<211> LENGTH: 20
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 181

ttaaaaagga aagcacatat 20

<210> SEQ ID NO 182
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<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 182

aaaggaaagc acatataaaa at

22

<210> SEQ ID NO 183

<211> LENGTH: 20

<212> TYPE: DNA

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<400> SEQUENCE: 183

gcacatatataa aaatgaaaaat

20

<210> SEQ ID NO 184

<211> LENGTH: 23

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 184

caaaattaca ttaacagctg atg

23

<210> SEQ ID NO 185

<211> LENGTH: 19

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 185

tgccactatt ttagaggac

19

<210> SEQ ID NO 186

<211> LENGTH: 26

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 186

ccttacccca ccaccgtctg catctt

26

<210> SEQ ID NO 187

<211> LENGTH: 22

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 187

atacagattt gtcacttcta ct

22

<210> SEQ ID NO 188

<211> LENGTH: 19

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 188

aaacacacca cctaaagga

19

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<211> LENGTH: 16

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 189

tttaaaggac tatatg

16

<210> SEQ ID NO 190

<211> LENGTH: 20

<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 190

tccgcaacca cacagtctat 20

<210> SEQ ID NO 191
<211> LENGTH: 15
<212> TYPE: DNA
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<400> SEQUENCE: 191

ccgcaaccac acagt 15

<210> SEQ ID NO 192
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 192

ccgcaaccac acagtctatg 20

<210> SEQ ID NO 193
<211> LENGTH: 22
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 193

cacagtctat gtctacatat aa 22

<210> SEQ ID NO 194
<211> LENGTH: 20
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 194

ctacatataa ttcaaagcaa

20

<210> SEQ ID NO 195
<211> LENGTH: 23
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 195

taaaatatcc ctgtctgctg agg

23

<210> SEQ ID NO 196
<211> LENGTH: 19
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 196

ttctacctta ctggaagac

19

<210> SEQ ID NO 197
<211> LENGTH: 26
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 197

ttgtcgcct cctgttgcca ctagct

26

<210> SEQ ID NO 198
<211> LENGTH: 22
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 198

atacagatat gtgaaaagtg ca 22

<210> SEQ ID NO 199
<211> LENGTH: 19
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 199

ggatcagccc cctcctgaa 19

<210> SEQ ID NO 200
<211> LENGTH: 15
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 200

tacagcatcc acgca 15

<210> SEQ ID NO 201
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 201

cagcatccac gcaggatagc

20

<210> SEQ ID NO 202

<211> LENGTH: 20

<212> TYPE: DNA

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<400> SEQUENCE: 202

acgcaggata gctttaataa

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<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 203

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<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 204

atagctttaa taattctgac

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<210> SEQ ID NO 205

<211> LENGTH: 23

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 205

taccataacc cttacagcag atg

23

<210> SEQ ID NO 206

<211> LENGTH: 19

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 206

tcccactatt ctagaggac

19

<210> SEQ ID NO 207

<211> LENGTH: 26

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 207

tataaccccc ccagctacaa gtagtt

26

<210> SEQ ID NO 208

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<400> SEQUENCE: 208

atataggttt gtacagtcac ag

22

<210> SEQ ID NO 209

<211> LENGTH: 22

<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 209

gaataatgcc cctgcaaagg aa 22

<210> SEQ ID NO 210
<211> LENGTH: 23
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 210

tttgttactg ttgtagatac tac 23

<210> SEQ ID NO 211
<211> LENGTH: 20
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 211

atgacaatat gtgctgctac 20

<210> SEQ ID NO 212
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 212

gacaatatgt gctgctacaa 20

<210> SEQ ID NO 213
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<400> SEQUENCE: 213

tgctacaact cagtcctcat 20

<210> SEQ ID NO 214
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 214

ctacaactca gctcctcatc 20

<210> SEQ ID NO 215
<211> LENGTH: 20
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 215

acaactcagt ctccatctac 20

<210> SEQ ID NO 216
<211> LENGTH: 20
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 216

atgttgagga gtttgactta 20

<210> SEQ ID NO 217
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<400> SEQUENCE: 217

tggttgaggag ttgacttac 20

<210> SEQ ID NO 218
<211> LENGTH: 20
<212> TYPE: DNA
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<400> SEQUENCE: 218

tgaggagttt gacttacagt 20

<210> SEQ ID NO 219
<211> LENGTH: 15
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 219

ctgctacaga acagt 15

<210> SEQ ID NO 220
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 220

gctacagaac agttaagtaa

20

<210> SEQ ID NO 221

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 221

cagaacagtt aagtaaata

20

<210> SEQ ID NO 222

<211> LENGTH: 23

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 222

gaacagttaa gtaaatatga tgc

23

<210> SEQ ID NO 223

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 223

gtaaatatga tgcacgaaaa

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<210> SEQ ID NO 224

<211> LENGTH: 23

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 224

caaaattact ttgtctgcag agg 23

<210> SEQ ID NO 225

<211> LENGTH: 19

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 225

tgctaaccta ctggaggac 19

<210> SEQ ID NO 226

<211> LENGTH: 26

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 226

gttatcccg ccagtggcca ccagcc 26

<210> SEQ ID NO 227

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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 227

atatagatat gttagaagca ca 22

<210> SEQ ID NO 228

<211> LENGTH: 19

<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 228

ggaacagcca ccaacagaa

19

<210> SEQ ID NO 229
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 229

atgcactgaa gtaactaagg

20

<210> SEQ ID NO 230
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 230

cactgaagta actaaggaag

20

<210> SEQ ID NO 231
<211> LENGTH: 15
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 231

tgaagtaact aagga

15

<210> SEQ ID NO 232
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 232

gaagtaacta aggaaggtac 20

<210> SEQ ID NO 233
<211> LENGTH: 22
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 233

ctaaggaagg tacatataaa aa 22

<210> SEQ ID NO 234
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 234

ataaaaaatga taattttaag 20

<210> SEQ ID NO 235
<211> LENGTH: 23
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 235

caaaattaca ctaactgcag aga 23

<210> SEQ ID NO 236
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<400> SEQUENCE: 236

ttccaatatt ttggaggac 19

<210> SEQ ID NO 237
<211> LENGTH: 26
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 237

tttaacacct cctccgtctg ccagtt 26

<210> SEQ ID NO 238
<211> LENGTH: 22
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 238

atatagattt gttacctccc ag 22

<210> SEQ ID NO 239
<211> LENGTH: 19
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 239

aacagcaccctaaagaa

19

<210> SEQ ID NO 240

<211> LENGTH: 15

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 240

ttctactact tcttc

15

<210> SEQ ID NO 241

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 241

actacttctt ctattcctaa

20

<210> SEQ ID NO 242

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 242

acttcttcta ttctctaagt

20

<210> SEQ ID NO 243

<211> LENGTH: 23

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 243

tcttctattc ctaatgtata cac

23

<210> SEQ ID NO 244

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 244

atgtatacac acctaccagt

20

<210> SEQ ID NO 245

<211> LENGTH: 23

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

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<400> SEQUENCE: 246

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19

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<400> SEQUENCE: 247

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26

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<211> LENGTH: 22

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<400> SEQUENCE: 248

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22

<210> SEQ ID NO 249

<211> LENGTH: 19

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<400> SEQUENCE: 249

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<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 250

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16

<210> SEQ ID NO 251
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<400> SEQUENCE: 251

ctgctacatc ccccc 15

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acatcccccc ctgtatctga 20

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<400> SEQUENCE: 253

catccccccc tgtatctgaa 20

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<400> SEQUENCE: 254

cccctgtatc tgaatataaa gc 22

<210> SEQ ID NO 255
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ctgaatataa agccacaagc 20

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taaaatacat ttaacccctg aaa 23

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tgtgggtacca ccacctcta ccagtt

26

<210> SEQ ID NO 259

<211> LENGTH: 22

<212> TYPE: DNA

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<212> TYPE: DNA

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caaaatacag ttaacccccg aaa 23

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<400> SEQUENCE: 270

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<400> SEQUENCE: 271

ggggctgcct acccgcccc 19

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gtatgcgcaa atgaca 16

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<400> SEQUENCE: 273

cagctaaaag cacat 15

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cagctaaaag cacattaact 20

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ctaaaagcac attaactaaa 20

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<400> SEQUENCE: 279

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26

<210> SEQ ID NO 281

<211> LENGTH: 22

<212> TYPE: DNA

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<400> SEQUENCE: 281

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22

<210> SEQ ID NO 282

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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 282

ggaacagccc cctgcagaa

19

<210> SEQ ID NO 283

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<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 283

cctggctaaa tataag

16

<210> SEQ ID NO 284

<211> LENGTH: 15

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 284

ctgaggaaaa atcag

15

<210> SEQ ID NO 285

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<212> TYPE: DNA
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<400> SEQUENCE: 285

gaggaaaaat cagaggctac 20

<210> SEQ ID NO 286
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atcagaggct acatacaaaa atg 23

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<400> SEQUENCE: 287

aggaaaaaatc agaggctaca 20

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ctacatacaa aaatgaaaac 20

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<400> SEQUENCE: 289

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<400> SEQUENCE: 290

tccagatata ttagaggac 19

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ccttacacca cctccttcag gtaatt 26

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<400> SEQUENCE: 292

atatagattt gttacctcgc ag 22

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aacatcccct ccaacagca

19

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<400> SEQUENCE: 294

tcttaaaaag tacagt

16

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<400> SEQUENCE: 295

ctactactga atcag

15

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<210> SEQ ID NO 297

<211> LENGTH: 20

<212> TYPE: DNA

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gaatcagctg taccaatat

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<212> TYPE: DNA

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<400> SEQUENCE: 298

cagctgtacc aaatatttat ga

22

<210> SEQ ID NO 299

<211> LENGTH: 20

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<400> SEQUENCE: 299

atattttatga tcctaataaa

20

<210> SEQ ID NO 300

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<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 300

tctgtctatt ttggatgat

19

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<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 301

tactataaca ttgtccactg atg

23

<210> SEQ ID NO 302

<211> LENGTH: 26

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 302

tgttgccctt ccaccatctg ctagtc

26

<210> SEQ ID NO 303

<211> LENGTH: 22

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 303

ataccgctat ctgcaatcag ca

22

<210> SEQ ID NO 304

<211> LENGTH: 19

<212> TYPE: DNA
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<400> SEQUENCE: 304

agacgccccct gcacctact 19

<210> SEQ ID NO 305
<211> LENGTH: 16
<212> TYPE: DNA
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<400> SEQUENCE: 305

atatgatggc ttaaac 16

<210> SEQ ID NO 306
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<400> SEQUENCE: 306

tattagtact gtatctgcac 20

<210> SEQ ID NO 307
<211> LENGTH: 15
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<400> SEQUENCE: 307

ctgtatctgc acaat 15

<210> SEQ ID NO 308
<211> LENGTH: 20
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<400> SEQUENCE: 308

ctgtatctgc acaatctgca 20

<210> SEQ ID NO 309
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<400> SEQUENCE: 309

tgcacaatct gcatctgcca 20

<210> SEQ ID NO 310
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 310

caatctgcat ctgccacttt ta 22

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<400> SEQUENCE: 311

ccacttttaa accatcagat 20

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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 312

taaaattact cttaccactg atg 23

<210> SEQ ID NO 313
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<400> SEQUENCE: 313

ttctactatt ttggaaaat 19

<210> SEQ ID NO 314
<211> LENGTH: 26
<212> TYPE: DNA
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<400> SEQUENCE: 314

ccttaccttg cctcctactg ctagtt 26

<210> SEQ ID NO 315
<211> LENGTH: 22
<212> TYPE: DNA
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<400> SEQUENCE: 315

atataggttt attaaaaatt ca

22

<210> SEQ ID NO 316

<211> LENGTH: 19

<212> TYPE: DNA

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cgatgccctt gcacagccc

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<210> SEQ ID NO 317

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15

<210> SEQ ID NO 319

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 319

gaaacggcca.tacctgctgt

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<210> SEQ ID NO 320

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 320

cgaacggcc atacctgtg

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<210> SEQ ID NO 321

<211> LENGTH: 22

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 321

cggccatacc tgctgtatat ag

22

<210> SEQ ID NO 322

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 322

cgtatatag ccctacaaag

20

<210> SEQ ID NO 323

<211> LENGTH: 23

<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 323

tactatcaca ttaactgctg acg 23

<210> SEQ ID NO 324
<211> LENGTH: 19
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<400> SEQUENCE: 324

tcctgcaatt ttggacaat 19

<210> SEQ ID NO 325
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<400> SEQUENCE: 325

agttaccctt ccaccatctg caagct 26

<210> SEQ ID NO 326
<211> LENGTH: 22
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 326

gtataggtat ttacaatcag ca 22

<210> SEQ ID NO 327
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 327

ggatgctcct acacctgaa 19

<210> SEQ ID NO 328
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<400> SEQUENCE: 328

ctatgacgat ttaaaa 16

<210> SEQ ID NO 329
<211> LENGTH: 20
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 329

atctgttggt ttaatgagct 20

<210> SEQ ID NO 330
<211> LENGTH: 20
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 330

tttgtgacag ttgtagatac 20

<210> SEQ ID NO 331
<211> LENGTH: 15
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<400> SEQUENCE: 331

ctgccacagc gtcct 15

<210> SEQ ID NO 332
<211> LENGTH: 20
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 332

acagcgtcct ctgtatcaga 20

<210> SEQ ID NO 333
<211> LENGTH: 20
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<400> SEQUENCE: 333

ccacagcgtc ctctgtatca 20

<210> SEQ ID NO 334
<211> LENGTH: 22
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 334

agcgtcctct gtatcagaat at

22

<210> SEQ ID NO 335

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 335

cagaatatac agcttcta

20

<210> SEQ ID NO 336

<211> LENGTH: 23

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 336

taaaattcac ttaactcctg aaa

23

<210> SEQ ID NO 337

<211> LENGTH: 19

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 337

taaggcctta ttggatgac

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<211> LENGTH: 26

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 338

tgtgggtgct cctccttcta ccagtt

26

<210> SEQ ID NO 339

<211> LENGTH: 22

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 339

ctataggttt ttgcagtcgc gt

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<400> SEQUENCE: 341

atatgctaac ttatcc

16

<210> SEQ ID NO 342

<211> LENGTH: 15

<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 342

cctacctcac aatcg 15

<210> SEQ ID NO 343
<211> LENGTH: 20
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 343

ctcacaaatcg cttctgcta 20

<210> SEQ ID NO 344
<211> LENGTH: 20
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<400> SEQUENCE: 344

acctcacaat cgccttctgc 20

<210> SEQ ID NO 345
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<400> SEQUENCE: 345

caatgcctt ctgctacata ta 22

<210> SEQ ID NO 346
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<400> SEQUENCE: 346

acaatcgccct tctgctacat at 22

<210> SEQ ID NO 347
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<400> SEQUENCE: 347

ctacatataa tagttcagac 20

<210> SEQ ID NO 348
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<400> SEQUENCE: 348

tagtattaag ttaactgctg agg 23

<210> SEQ ID NO 349
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<400> SEQUENCE: 349

tcctacagtt ttagaagag 19

<210> SEQ ID NO 350
<211> LENGTH: 26
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<400> SEQUENCE: 350

gctaacgcct ccccccaatg gtactt

26

<210> SEQ ID NO 351
<211> LENGTH: 22
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<400> SEQUENCE: 351

ctacagatat gtgcagtcct ag

22

<210> SEQ ID NO 352
<211> LENGTH: 19
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<400> SEQUENCE: 352

acctacgcct gataaagca

19

<210> SEQ ID NO 353
<211> LENGTH: 16
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 353

ctatgcaaat ttaagt

16

<210> SEQ ID NO 354

<211> LENGTH: 15

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 354

tgctgttact ccac

15

<210> SEQ ID NO 355

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 355

tgctgttact ccac

20

<210> SEQ ID NO 356

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 356

actccatctg ttgcacaaac

20

<210> SEQ ID NO 357

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 357

aaacatttac tccagcaaac

20

<210> SEQ ID NO 358

<211> LENGTH: 23

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 358

taaaatcact ttaactactg aaa

23

<210> SEQ ID NO 359

<211> LENGTH: 19

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 359

ttctacaatt ttagaacag

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<400> SEQUENCE: 360

attaacattg cccccctcgg ctagtt

26

<210> SEQ ID NO 361

<211> LENGTH: 22

<212> TYPE: DNA
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<400> SEQUENCE: 361

ctatcgattt gtaaaaaatg ca

22

<210> SEQ ID NO 362
<211> LENGTH: 19
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<400> SEQUENCE: 362

ggacagtcct ccacaggct

19

<210> SEQ ID NO 363
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<400> SEQUENCE: 363

tctgtgctac caaaactggt

20

<210> SEQ ID NO 364
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<400> SEQUENCE: 364

ctacccaaaac tgttg

15

<210> SEQ ID NO 365
<211> LENGTH: 20
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<400> SEQUENCE: 365

accaaaactg ttgagtctac 20

<210> SEQ ID NO 366
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<400> SEQUENCE: 366

aactgttgag tctacatata aa 22

<210> SEQ ID NO 367
<211> LENGTH: 20
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<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 367

gttgagtcta catataaagc 20

<210> SEQ ID NO 368
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 368

ctacatatataa agcctctagt 20

<210> SEQ ID NO 369
<211> LENGTH: 23
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 369

tgttattaat ttaacagctg aaa 23

<210> SEQ ID NO 370
<211> LENGTH: 19
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 370

tgctacatta ctggaggac 19

<210> SEQ ID NO 371
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 371

gttcttaccac cctcctactg 20

<210> SEQ ID NO 372
<211> LENGTH: 22
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 372

ctaccgcttt ttacagtctc ag

22

<210> SEQ ID NO 373

<211> LENGTH: 22

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 373

aaacagtcct cctcctgcag aa

22

<210> SEQ ID NO 374

<211> LENGTH: 16

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 374

ctatgcagat cttaca

16

<210> SEQ ID NO 375

<211> LENGTH: 15

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 375

cagctacatc tgctg

15

<210> SEQ ID NO 376

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 376

gctacatctg ctgctgcaga

20

<210> SEQ ID NO 377

<211> LENGTH: 22

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 377

acatctgctg ctgcagaata ca

22

<210> SEQ ID NO 378

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 378

tgctgcagaa tacaaggcct

20

<210> SEQ ID NO 379

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 379

gctgcagaat acaaggcctc

20

<210> SEQ ID NO 380

<211> LENGTH: 20

<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 380

cagaatacaa ggcctctaac 20

<210> SEQ ID NO 381
<211> LENGTH: 23
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 381

taaaatacag ttaacaccag aaa 23

<210> SEQ ID NO 382
<211> LENGTH: 19
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 382

caaggcactg ttggatgat 19

<210> SEQ ID NO 383
<211> LENGTH: 26
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 383

tgtgttgcca cctccttcca ccagtt 26

<210> SEQ ID NO 384
<211> LENGTH: 22
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 384

atatcgcttt ttacagtcctc gg 22

<210> SEQ ID NO 385
<211> LENGTH: 22
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 385

gggtgctgct gccctgcgc cc 22

<210> SEQ ID NO 386
<211> LENGTH: 16
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 386

ttatgccgac atgtca 16

<210> SEQ ID NO 387
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 387

atctactgca actactaatc 20

<210> SEQ ID NO 388
<211> LENGTH: 15
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 388

ctgcaactac taatc 15

<210> SEQ ID NO 389
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 389

ctgcaactac taatccagtt 20

<210> SEQ ID NO 390
<211> LENGTH: 22
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 390

actactaatc cagttccatc ta 22

<210> SEQ ID NO 391
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 391

ctaattccagt tccatctata

20

<210> SEQ ID NO 392

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 392

ctatatatga accttctaaa

20

<210> SEQ ID NO 393

<211> LENGTH: 23

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 393

taaaattaca cttactactg atg

23

<210> SEQ ID NO 394

<211> LENGTH: 19

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 394

tcctactatt ttagatagt

19

<210> SEQ ID NO 395

<211> LENGTH: 26

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 395

tgtagtcct ccccatctg ctact

26

<210> SEQ ID NO 396

<211> LENGTH: 22

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 396

atatagggtt ttacagtcac ct

22

<210> SEQ ID NO 397

<211> LENGTH: 19

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 397

ggatgtggtt gttccacaa

19

<210> SEQ ID NO 398

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 398

ctgctgttac tcaatctgtt

20

<210> SEQ ID NO 399

<211> LENGTH: 15

<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 399

tgctgttact caatc 15

<210> SEQ ID NO 400
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 400

gttactcaat ctgttgca 20

<210> SEQ ID NO 401
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 401

tgcaacaaca ttactccag 20

<210> SEQ ID NO 402
<211> LENGTH: 22
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 402

ttactcaatc tgttgcaaa ac 22

<210> SEQ ID NO 403
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 403

aaacatttac tccagcaaac 20

<210> SEQ ID NO 404
<211> LENGTH: 23
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 404

taaaatcact ttaactactg aaa 23

<210> SEQ ID NO 405
<211> LENGTH: 19
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 405

ttctacaatt ttagaacag 19

<210> SEQ ID NO 406
<211> LENGTH: 26
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 406

attaaccttg cccccctcag ctagtt 26

<210> SEQ ID NO 407
<211> LENGTH: 22
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 407

ctatcgattt gtaaaaaatg ca 22

<210> SEQ ID NO 408
<211> LENGTH: 19
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 408

ggacagtcct ccacaggct 19

<210> SEQ ID NO 409
<211> LENGTH: 15
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 409

tgctgctaca caggc 15

<210> SEQ ID NO 410
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 410

gctgctacac aggctaata

20

<210> SEQ ID NO 411

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 411

tgctacacag gctaataat

20

<210> SEQ ID NO 412

<211> LENGTH: 22

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 412

ctacacaggc taatgaatac ac

22

<210> SEQ ID NO 413

<211> LENGTH: 20

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 413

atgaatacac agcctctaac

20

<210> SEQ ID NO 414

<211> LENGTH: 23

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 414

caaaatacat cttaccctg aaa

23

<210> SEQ ID NO 415

<211> LENGTH: 19

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 415

tgaacattta ttgatgag

19

<210> SEQ ID NO 416

<211> LENGTH: 26

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 416

cgtgttacca cctcctcca ccagcc

26

<210> SEQ ID NO 417

<211> LENGTH: 22

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 417

ctatcgctat ctgcagtc cc gt

22

<210> SEQ ID NO 418

<211> LENGTH: 22

<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 418

gggtccttcc gccctgccc ct 22

<210> SEQ ID NO 419
<211> LENGTH: 16
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 419

ttatgatggc ctgtga 16

<210> SEQ ID NO 420
<211> LENGTH: 15
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 420

tgtaccaac accga 15

<210> SEQ ID NO 421
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 421

ctaccaaac cgaatcagaa 20

<210> SEQ ID NO 422
<211> LENGTH: 22
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 422

ccaacaccga atcagaatat aa

22

<210> SEQ ID NO 423
<211> LENGTH: 20
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 423

cagaatataa acctaccaat

20

<210> SEQ ID NO 424
<211> LENGTH: 23
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 424

taaggtccgt ctgactccag agg

23

<210> SEQ ID NO 425
<211> LENGTH: 19
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: . 425

tgactcctta ttagatgag

19

<210> SEQ ID NO 426
<211> LENGTH: 26
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 426

tgttgtgccc cctccctcca caagtt 26

<210> SEQ ID NO 427
<211> LENGTH: 22
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 427

ctataggtac ttgcagtcgc gc 22

<210> SEQ ID NO 428
<211> LENGTH: 22
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 428

ggggggccgcc gccgccaagc ct 22

<210> SEQ ID NO 429
<211> LENGTH: 16
<212> TYPE: DNA
<213> ORGANISM: Human Papilloma Virus

<400> SEQUENCE: 429

ttatgctggc atgtcc

16

<210> SEQ ID NO 430

<211> LENGTH: 409

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 6 (6743-7151/409 bp)

<400> SEQUENCE: 430

tatttgttgg ggtaatcaac tgtttgttac tgtggtagat accacacgca gtaccaacat	60
gacattatgt gcatccgtaa ctacatcttc cacatacacc aattctgatt ataaagagta	120
catgcgcat gtggaagagt atgatttaca atttattttt caattatgta gcattacatt	180
gtctgtgaa gtaatggcct atattcacac aatgaatccc tctgttttgg aagactggaa	240
ctttgggtta tgcctcccc caaatggtaac attagaagat acctataggt atgtgcagtc	300
acaggccatt acctgtcaaa agcccactcc tgaanaaggaa aagccagatc cctataagaa	360
ccttagtttt tgggagggtta atttaaaaga aaagttttct agtgaattg	409

<210> SEQ ID NO 431

<211> LENGTH: 409

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 11 (6727-7135/409 bp)

<400> SEQUENCE: 431

tatttgcctgg ggaaaccact tgtttgttac tgtggtagat accacacgca gtacaaatat	60
gacactatgt gcatctgtgt ctaaatctgc tacatacact aattcagatt ataaggaata	120
catgcgccat gtggaggagt ttgatttaca gtttattttt caatttgtta gcattacatt	180
atctgcagaa gtcatggcct atatacacac aatgaatcct tctgttttgg aggactggaa	240
ctttgggtta tgccttccac caaatggtaac actggaggat acctatagat atgtacagtc	300
acaggccatt acctgtcaga aacccacacc tgaanaaggaa aaacaggatc cctataagga	360
tatgagtttt tgggagggtta acctaaaaga aaagtlttca agtgaatta	409

<210> SEQ ID NO 432

<211> LENGTH: 412

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 16 (6602-7013/412 bp)

<400> SEQUENCE: 432

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catttgttgg ggtaaccaac tatttgttac tgttgttgat actacacgca gtacaaatat    60
gtcattatgt gctgccatat ctacttcaga aactacatat aaaaatacta actttaagga    120
gtacctacga catggggagg aatatgattt acagttttatt ttccaactgt gcaaaataac    180
cttaactgca gacgttatga catacataca ttctatgaat tccactattt tggaggactg    240
gaattttggt ctacaacctc ccccaggagg cacactagaa gatacttata ggtttgtaac    300
ccaggcaatt gcttgtaaaa aacatacacc tccagcacct aaagaagatg atcccttaa    360
aaaatacact ttttgggaag taaatttaaa ggaaaagtgt tctgcagacc ta          412
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<210> SEQ ID NO 433

<211> LENGTH: 415

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 18 (6587-6992/415 bp)

<400> SEQUENCE: 433

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tgtttgctgg cataatcaat tatttgttac tgtggtagat accactccca gtaccaattt    60
aacaatatgt gcttctacac agtctcctgt acctgggcaa tatgatgcta ccaaatttaa    120
gcagtatagc agacatgttg aggaatatga ttgacagttt atttttcagt tgtgtactat    180
tactttaact gcagatgtta tgccttatat tcatagtatg aatagcagta ttttagagga    240
ttgggaacttt ggtgttcccc cccccccaac tactagtitt gttgatacat atcgttttgt    300
acaatctgtt gctattacct gtcaaaagga tgcctgcaccg gctgaaaaa aggatcccta    360
tgataagtta aagttttgga atgtggattt aaaggaaaaa ttttcttttag actta      415
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<210> SEQ ID NO 434

<211> LENGTH: 415

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 26 (6553-6967/415 bp)

<400> SEQUENCE: 434

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tatctgttgg ggcaatcaat tgtttgttac ctgtgttgat accaccgca gtactaacct    60
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taccattagc acattatcgc cagcatctgc atccacacca tttaaacat ctgattataa	120
acaatttata agacatggcg aagaatatga attacaattt atatttcagc tctgtaaaaa	180
aacacttaca acagatgta tggcttacct acatttaatt aatgcctcca tattggagga	240
ttggaaattt ggacttaacct taccctccac tgcctagttg gaagatgcct ataggtttat	300
taaaaactct gctactacct gtcagcgtaa cgccctcctt gtgccaaggg aagatccttt	360
tcaaaaattt aaattttggg atgtagattt aaaagaaaaa ttttctattg atttg	415

<210> SEQ ID NO 435

<211> LENGTH: 412

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 31 (6520-6931/412 bp)

<400> SEQUENCE: 435

tatttgttgg ggcaatcagt tatttgttac tctggtagat acccacgta gtaccaatat	60
gtctgttgt gctgcaattg caaacagtga tactacattt aaaagtagta attttaaga	120
gtatttaaga catggtaggg aatttgattt acaatttata ttcagttat gcaaaataac	180
attatctgca gacataatga calatatcca cagtatgaat cctgctattt tgggaagattg	240
gaattttgga ttgaccacac ctccctcagg ttctttggag gatacctata ggtttgtcac	300
ctcacaggcc attacatgic aaaaaactgc ccccaaaaag cccaagggaag atccatttaa	360
agatttatgta ttttgggagg ttaattttaa agaaaagtgt tctgcagatt ta	412

<210> SEQ ID NO 436

<211> LENGTH: 409

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 32 (6837-7245/409 bp)

<400> SEQUENCE: 436

tatatgttgg ggtaatacag tttttctaac tgtttgggat actaccgta gtactaacat	60
gactgttgtt gctactgtta caactgaaga cacatacaag tctactaact ttaaggtaata	120
tctacgcat gcagaggaat atgatataca gtttatattt caattgtgca aaattacatt	180
atctgtagag gttatgtcat atatccacac catgaatcct gacatactag acgattggaa	240
tgttgggtga gctccaccgc cctctgggtac tttagaagat agttatagat ttgtgcagtc	300
tcaggccata cgaatgtaag ctaaggtaac agcacctgaa aaaaaggatc ctittttctga	360
ctatttcattt tgggaagtaa atttatctga aaagtittct agtatttta	409

<210> SEQ ID NO 437
 <211> LENGTH: 409
 <212> TYPE: DNA
 <213> ORGANISM: Human Papilloma Virus subtype 33 (6559-6967/409 bp)

<400> SEQUENCE: 437

tatttgttgg ggcaatcagg tatttgttac tttgtagat accactcgca gtactaatat	60
gactttatgc acacaagttaa ctagtacagac tacatatataa aatgaaaatt ttaaagaata	120
tataagacat gttagaagaat atgacttaca gtttgtttt caactatgca aagttacctt	180
aactgcagaa gttatgacat atattcatgc tatgaatcca gatatttttag aagattggca	240
atttggttta acacctccic catctgctag ttacaggat acctataggt ttgttaccic	300
tcaggctatt acgtgtcaaa aaacagtacc tccaaaggaa aaggagacc ccttaggtta	360
atatacatit tgggaagttg atttaaagga aaaattttca gcagattta	409

<210> SEQ ID NO 438
 <211> LENGTH: 412
 <212> TYPE: DNA
 <213> ORGANISM: Human Papilloma Virus subtype 35 (6542-6953/412 bp)

<400> SEQUENCE: 438

tatttgttgg agtaaccaat ttttgttac tttgttagat acaaccgta gtacaaatat	60
gtctgttgtt tctgttgtt cttctagtag cagtacatat aaaaatgaca attttaagga	120
atatttaagg catggtagag aatatgattt acagtttatt tttagattt gtaaaataac	180
actaacagca gatgttaga catatattca tagtagaac cgtccattt tagaggattg	240
gaatttggc cttacaccac cgccttctgg tacccttagag gacacatatc gctatgtaac	300
atcacaggct gtaacttgtc aaaaaccag tgcacaaaaa cctaaagatg atccattaaa	360
aaattatact ttttgggagg ttgatttaaa ggaaaagttt tctgcagact ta	412

<210> SEQ ID NO 439
 <211> LENGTH: 415
 <212> TYPE: DNA
 <213> ORGANISM: Human Papilloma Virus subtype 37 (6711-7125/415 bp)

<400> SEQUENCE: 439

cattttatgg ggtaatcaaa tgtttatcac agttgctgat aatacacgga acacaaactt	60
ttctattagt gttctactg acaatggcga agttacagaa tataattctc aaacactcag	120
agaataccta agacatgttg aagaatacca gctttcaatt attttacaac ttgttaaagt	180
tcctttaaag gctgagggtt taactcagat aaatgcaatg aattctggta tattggaaga	240
gtggcaatta ggallttgtac ctactccaga taattcagta catgacctt ataggatcat	300
taattcaaag gctaccaagt gtctgatgc agttgttgaa aaagaaaagg aagatccctt	360
tgcaaaatat acattttgga atgtagattt aactgaaaaa ttatcattgg attta	415

<210> SEQ ID NO 440

<211> LENGTH: 415

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 39 (6605-7017/415 bp)

<400> SEQUENCE: 440

tatatgttgg cataatcaat tatttcttac tgttgggac actaccgta gtaccaactt	60
tacattatct acctctatag agtcttccat acctcttaca tatgatcctt ctaagtttaa	120
ggaatatacc aggacagtgg aggagtatga ttacaattt atatttcaac tgtgtactgt	180
cacattaaca actgatgtta tgtcttatat tcacactatg aattcttcta tattggacaa	240
tgggaatttt gctgtagctc ctccaccatc tgccagtgtg gtagacactt acagataacct	300
acagltcga gccattacat gtcaaaaagga tgcctccagca cctgaaaaga aagatccata	360
tgacggctta aagttttgga atgttgactt aagggaagaag tttagtttgg aactt	415

<210> SEQ ID NO 441

<211> LENGTH: 409

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 42 (6802-7210/409 bp)

<400> SEQUENCE: 441

tatatgttgg ggaatcagc tatttttaac tgtggttgat actaccgta gtactaacat	60
gactttgtgt gccactgcaa catctggatg tacatatata gctgctaatt ttaaggaata	120
tttaagacat gctgaagaat atgatgtgca atttataatt caattgtgta aaataacatt	180

aactgttgaa gttatgtcat atatacacia tatgaatcct aacatattag aggagttggaa	240
tgttgggtgtt gcaccaccac cttcaggaac tttagaagat agttataggt atgtacaatc	300
agaagctatt cgctgtcagg ctaaggtaac aacgccagaa aaaaaggatc cttattcaga	360
cttttgggtt tgggaggtaa atttatctga aaagttttct actgatita	409

<210> SEQ ID NO 442

<211> LENGTH: 415

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 43 (21-435/415 bp)

<400> SEQUENCE: 442

catttgtttt gggaatcagt tgtttgttac agtggtagat accactcgta gtacaaactt	60
gacgttatgt gccctactgt accctactgt gccccagtaca tatgacaatg caaagtttaa	120
ggaatacttg cggcatgttg aagaatatga tctgcagttt atatttcaat tatgcataat	180
aacgctaaac ccagaggtta tgacatatat tcatactatg gatccacat tattagagga	240
ctggaatttt ggtgtgtccc caccctgcctc tgcctctttg gaagatactt atcgcttttt	300
gtctaacaag gccattgcat gtcaaaaaaa tgcctcccca aaggacaggg aggatcccta	360
taaaaaglat acatttttggg atataaatct tacagaaaag ttttctgcac aacttt	415

<210> SEQ ID NO 443

<211> LENGTH: 415

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 44 (6647-7061/415 bp)

<400> SEQUENCE: 443

tatttgttgg gggaatcagt tatttgttac tgtttagat actaccgta gtacaaacat	60
gacaatatgt gctgccacta cacagtcgcc tccgtctaca tatactagtgt aacaatataa	120
gcaatacatg cgacatgttg aggagtttga cttacaattt atgtttcaat tatgtagtat	180
taccttaacg gccgaggtaa tggcctatct tcatactatg aatgctggta ttttagaaca	240
gtggaacttt ggggtgtcgc cgcccccaaa tgggtacctta gaggacaaat acagatatgt	300
gcagtcaccg gccattacat gtcaaaagcc accccctgaa aaggcaaaag aggaccccta	360
tgcaaaatta agtttttggg aggtggatct tagagaaaag ttttctagtgt agtttg	415

<210> SEQ ID NO 444

<211> LENGTH: 415

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 45 (6582-6996/415 bp)

<400> SEQUENCE: 444

```
tatttgttgg cataatcagt tgtttgttac tgtagtggac actaccgcga gtactaattt    60
aacattatgt gccctctacac aaaatccgtg gccaaagtaca tatgacccta ctaagtttaa    120
gcagtatagt agacatgttg aggaatatga ttacagttt atttttcagt tgtgcactat    180
tactttaact gcagaggtta tgtcatatat ccatagtatg aatagtagta tattagaaaa    240
ttggaatttt ggtgtccctc caccacctac tacaagtttg gtggatacat atcgttttgt ..    300
gcaatcagtt gctgttacct gtcaaaagga tactacacct ccagaaaaagc aggatccata    360
tgataaatta aagttttgga ctgttgacct aaaggaaaaa ttctcctccg atttg          415
```

<210> SEQ ID NO 445

<211> LENGTH: 412

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 51 (6486-6897/412 bp)

<400> SEQUENCE: 445

```
catttgcitgg aacaatcagc tttttattac ctgtgttgat actaccagaa gtacaaattt    60
aactattagc actgccactg ctgcggttcc cccaacattt aciccaagta actttaagca    120
atataattagg catggggaag agtatgaatt gcaattttatt ttcaattat gtaaaattac    180
tttaactaca gaggtaatgg cttattttaca cacaatggat cctaccattc ttgaacagtg    240
gaatttllgga ttaacattac ctccgtctgc tagtttggag gatgcataata ggttttttag    300
aaatgcagct actagctgtc aaaaggacac cctccacag gctaaagccag atcctttggc    360
caaatataaa ttttgggatg ttgattttaa ggaacgattt tctttagatt ta          412
```

<210> SEQ ID NO 446

<211> LENGTH: 409

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 52 (6623-7031/409 bp)

<400> SEQUENCE: 446

catatgttgg ggcaatcagt tgtttgtcac agttgtggat accactcgtt gcactaacat	60
gactttatgt gctgagggtt aaaaggaaag cacatataaa aatgaaaatt ttaaggaaata	120
ccttcgtcat ggcgagggaat ttgattttaca atttattttt caattgtgca aaattacatt	180
aacagctgat gttatgacat acattcalaa gatggatgcc actatttttag aggactggca	240
atttggcctt accccaccac cgtctgcac ttggaggac acatacagat ttgtcacttc	300
tactgctata acttgtcaaa aaaacacacc acctaaagga aaggaagatc ctttaaagga	360
ctatatgttt tgggagggtgg atttaaaaga aaagtittct gcagatttta	409

<210> SEQ ID NO 447

<211> LENGTH: 409

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 53 (6614-7022/409 bp)

<400> SEQUENCE: 447

catctgttgg aacaatcagt tatttctaac ttttggat accaccagga atacaacat	60
gactctttcc gcaaccacac agtctatgtc tacataataa tcaagcaaa ttaacagta	120
tgtagacat gcagagggaat atgaattaca atttgtgttt caactatgta aaataccct	180
gctcgtcag gttatggcct atttacatc tatgaattct acctactgg aagactggaa	240
tataggtttg tcgcttcctg ttgccactag cttagaggac aaatacagat atgtgaaaag	300
tgcagctata accgtgcaaa aggatcagcc ccttcctgaa aagcaggacc cactatctaa	360
atataaattt tgggagggtca atttgcaaaa cagtttttct gctgatttg	409

<210> SEQ ID NO 448

<211> LENGTH: 412

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 54 (6561-6972/412 bp)

<400> SEQUENCE: 448

tatttgttgg ggcaatcagg tgtttttaac agttgttagt accaccgcta gtactaacct	60
aacatttgtt gctacagcat ccacgcagga tagctttaat aattctgact ttagggagta	120
tattagacat gtggagggaat atgattttaca gtttataatt cagttatgta ccataaccct	180
tacagcagat gttatggcct ataticatgg aatgaatccc actattctag aggactggaa	240
ctttggtata accccccgac ctacaagtag ttggaggac acatataggt ttgtacagtc	300

acaggccatt gcatgtcaaa agaataatgc cccctgcaaag gaaaaggagg atccttacag 360
 taaatttaat ttttggactg ttgaccttaa ggaacgattt tcaictgacc tt 412

<210> SEQ ID NO 449

<211> LENGTH: 415

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 55 (6647-7061/415 bp)

<400> SEQUENCE: 449

tatttggtgg ggggaatcagt tatttggttac tgttgtagat actacacgta gtacaacat 60
 gacaatatgt gctgctacaa ctacgtctcc atctacaaca tataatagta cagaatataa 120
 acaatacatg cgacatgttg aggagtttga cttacagttt atgtttcaat tatgtagtat 180
 taccttaact gctgaggtaa tggcctattt acataaccatg aatccctgga ttttggaaaca 240
 gtggaacttt ggggtgtcgc caccgccaaa tggtagctta gaagacaaa acagatatgt 300
 gcagtcacag gccattacat gtcaaaagcc tccccctgaa aaggcaaaag aggaccccta 360
 tgcaaaatta agtttttggg aggtagatct cagagaaaaa ttttctagtg agtta 415

<210> SEQ ID NO 450

<211> LENGTH: 409

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 56 (6559-6967/409 bp)

<400> SEQUENCE: 450

catttgctgg gglaatcaat tatttggttac tgtagttagat actactagaa gtactaacat 60
 gactattagt actgctacag aacagttaag taaataigat gcacgaaaaa ttaatcagta 120
 ccttagacat gtggagggaat atgaattaca atttgttttt caattatgca aaattacttt 180
 gtctgcagag gttatggcat atttacataa tatgaatgct aacctactgg aggactggaa 240
 tattgggtta tccccgccag tggccaccag cctagaagat aaatatagat atgttagaag 300
 cacagctata acatgtcaac gggaacagcc accaacagaa aaacaggacc cattagctaa 360
 atataaaatt tgggatgtta acttacagga cagtttttct acagacctg 419

<210> SEQ ID NO 451

<211> LENGTH: 409

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 58 (6608-7016/409 bp)

<400> SEQUENCE: 451

```
catttgcigg ggcaatcagt tatttgttac cgtggttgat accactcgta gcactaatat 60
gacattatgc actgaagtaa ctaaggaagg tacatataaa aatgataatt ttaaggaata 120
tgtacgcat gttagaagaat atgacttaca gtttgttttt cagctttgca aaattacaci 180
aactgcagag ataattgacat atatacatat tatggatgcc aataattttg aggactggca 240
atttggttta acacctcctc cgtctgccag ttacaggac acatatagat ttgttacctc 300
ccaggctatt acttgccaaa aaacagcacc ccctaaagaa aaggaagatc cattaataaa 360
atatactttt tgggaggtta acttaaagga aaagtitttc gcagatcta 409
```

<210> SEQ ID NO 452

<211> LENGTH: 415

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 59 (6571-6985/415 bp)

<400> SEQUENCE: 452

```
tatatgttgg cacaatcaat tgtttttaac agttgtagat actactcgca gcaccaatct 60
ttctgttgt gcttctacta ctctctctat tcctaattga tacacacctt ccagttttaa 120
agaatatgcc agacatgtgg aggaatttga ttgcagttt atatttcaac tgtgtaaaa 180
aacattaaat acagaggtaa tgcatacat tcataatat aataccacta ttttggagga 240
ttggaatttt ggtgttacac caccctctac tgcagttaa gttgacacat accgttttgt 300
tcaatctgct gctgtaacit gicaaaagga caccgcaccg ccagttfaaa aggaccttta 360
tgacaaaacta aagttttggc ctgtagatct taaggaaagg ttttctgcag atctt 415
```

<210> SEQ ID NO 453

<211> LENGTH: 415

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 61 (6732-7146/415 bp)

<400> SEQUENCE: 453

```
tatttgttgg tttaatgaat tgtttgtaac cgttgtggat accaccgcga gtaactaattt 60
```

aaccatttgt acigtctacat ccccccttgt atcigaatat aaagccacaa gcitttaggga	120
atatattgcgc catacagagg agtttgattt gcaatttatt tticagttat gtaaaataca	180
tttaacccct gaaattatgg cctacctaca taatatgaat aaggcccttgt tggatgactg	240
gaacttttgt gtggtaccac caccctctac cagtttagaa gacacatata ggtttttgca	300
gtccagagct attacatgtc agaaggggtgc tgcgtccccc ccgccaagg aggatcgcta	360
tgccaagtta tccttttga cgttgtattt acgagacaag ttttccactg atttg	415

<210> SEQ ID NO 454

<211> LENGTH: 409

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 62 (21-429/409 bp)

<400> SEQUENCE: 454

tatttgttgg tttaatgaac tgtttgttac tgtgttggat actaccagaa gtactaattt	60
tactatttgt accgcctcca ctgctgcagc agaatacacg gctaccaact ttagggaatt	120
tttgcgacac acggaggaat ttgatttgca atttatattt caattgtgca aaatacagtt	180
aacccccgaa attatggcct acctgcataa tatgaacaag gaccttttgg atgactggaa	240
ctttgggggtt ttacctcccc ctctccactag tttagatgag acataatcact atttcgagtc	300
tcgggctatt acatgtcaaa gggggcgtgcc taccgtccc aagggtggacc cgtatgcgca	360
aatgacattt tggactgtgg atcttaagga caagtgttgt actgatttg	409

<210> SEQ ID NO 455

<211> LENGTH: 409

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 66 (6609-7017/409 bp)

<400> SEQUENCE: 455

catatgctgg ggtaatcagg tatttgttac tgttgtggat actaccagaa gcaccaacat	60
gactattaat gcagctaaaa gcacattaac taaatatgat gcccgtagaa tcaatcaata	120
cccttcgcat gtggaggaat atgaactaca gtttgtgttt caactttgtta aaataacctt	180
aactgcagaa gttatggcat atttgcataa tatgaataat actttattag acgattggaa	240
tattggctta tccccaccag ttgcaactag cttagaggat aaatataggt atattaaaag	300
cacagctatt acatgtcaga ggggaacagcc ccttcagaa aagcaggatc ccttggctaa	360
atataagttt tgggaagtta atttacagga cagcttttct gcagacctg	409

<210> SEQ ID NO 456
 <211> LENGTH: 409
 <212> TYPE: DNA
 <213> ORGANISM: Human Papilloma Virus subtype 67 (6584-6992/409 bp)

<400> SEQUENCE: 456

```
tatatgctgg ggtaatacaaa tatttggtac tgttgtagac actacacgta gtaccaacat    60
gactttatgt tctgaggaaa aatcagaggc tacatacaaa aatgaaaact ttaaggaata    120
cccttagacat gtggaagaat atgatttgca gtttatattt cagctgtgca aaatatccct    180
tactgcaaat gttatgcaat acatacacac catgaatcca gatataatag aggactggca    240
atttggcctt acaccacctc cttcaggtaa ttacaggac acatatagat ttgttacctc    300
gcaggctatt acctgtcaaa aaacatcccc tccaacagca aaggaagatc ctcttaaaaa    360
gtacagtttt tgggaaatca atttaaagga aaaattttct gcagattta    409
```

<210> SEQ ID NO 457
 <211> LENGTH: 415
 <212> TYPE: DNA
 <213> ORGANISM: Human Papilloma Virus subtype 68 (2582-2996/415 bp)

<400> SEQUENCE: 457

```
tatttggtgg cataatcaat tatttcttac tgttgtggat accactcgca gtaccaattt    60
tactttgtct actactactg aatcagctgt accaaatatt tatgactcta ataaatttaa    120
ggaatatatt aggcatgttg aggaatatga ttgcaattt atatttcagt tgtgtactat    180
aacattgtcc actgatgtaa tgcctatat acatactatg aatcctgcta ttttggatga    240
ttggaatttt ggtgttgccc ctccaccatc tgctagtcit gtagatacat accgctatct    300
gcaatcagca gcaattacat gtcaaaaaaga cgccccctgca cctactaaaa aggatccata    360
tgatggctta aacttttggg atgtaaattt aaagggaaga ttagttcttg aactg    415
```

<210> SEQ ID NO 458
 <211> LENGTH: 415
 <212> TYPE: DNA
 <213> ORGANISM: Human Papilloma Virus subtype 69 (6509-6923/415 bp)

<400> SEQUENCE: 458

catttggtgg ggcaaccaat tgtttgttac ttgtgtagat actaccgcga gtaccaacct	60
cactattagc actgtatctg cacaatctgc atctgccact tttaaacct cagattataa	120
gcagtttata aggcattggtg aggaatatga attacagttt atatttcaat tgtgtaaaat	180
tactcttacc actgatgtaa tggcctatata ccatacaatg aattctacta ttttggaaaa	240
ttggaatttt ggccctacct tgcctcctac tgctagtttg gaagatgcac ataggtttat	300
taaaaattca gctactacac gtcaacgcga tgccttcgca cagcccaagg aggatccatt	360
tagtaaatca aaattttggg acgttgatct taaagaaaag ttttctattg attta	415

<210> SEQ ID NO 459

<211> LENGTH: 415

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 70 (6549-6963/415 bp)

<400> SEQUENCE: 459

catttggtgg cataaccagt tgtttattac tgggtggac actacacgta gtactaattt	60
tacattgtct gccctgcaccg aaacggccat acctgctgta tatagcccta caaagtttaa	120
ggaatatact aggcattggtg aggaatatga ttacaattt atatttcaat tgtgtactat	180
cacattaaat cgtgacgtta tggcctacat ccatactatg aatcctgcaa ttttggacaa	240
ttggaatata ggagttacc ctcaccatc tgaagcttg gtggacacgt ataggttatt	300
acaatcagca gctatagcat gtcaaaaagga tgcctctaca cctgaaaaaa aggatcccta	360
tgacgattta aaattttgga atgttgattt aaaggaaaag tttagtacag aacta	415

<210> SEQ ID NO 460

<211> LENGTH: 415

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 72 (6758-7172/415 bp)

<400> SEQUENCE: 460

catctgttgg tttaatgagc tttttgtgac agttgtagat actactcgca gtactaatgt	60
aactatttgt actgccacag cgtcctctgt atcagaatat acagcttcta attttcgtga	120
gtatcttcgc cacactgagg aatttgattt gcagtttata tttaactgt gtaaaaattca	180

cttaactcct gaaattatgg cctacttgca caatatgaat aaggcccttat tggatgactg	240
gaatttttggg tgggtggcctc ctccctctac cagtttggat gataacctata ggtttttggca	300
gtctgtggcc attaccigtg aaaaggggggc tgccacccct cctcctaaag aagatccata	360
tgctaactta tccttttggga ctgtggattt aaaggacaaa tttccactg acttg	415

<210> SEQ ID NO 461

<211> LENGTH: 415

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 74 (1613-2027/415 bp)

<400> SEQUENCE: 461

tatttgttgg ggtaatcaat tatttgttac agttgtggat accacacgca gtactaacat	60
gacttgttgt gtctctacct cacaatcgcc ttctgtctaca tataatagtt cagactacaa	120
acaatacatg cgacatgtgg aggaatttga ttgcaattt atttttcaat tatgtagtat	180
taagttaaact gtgtagggtta tggcctatat tcatactatg aatcctacag ttttagaaga	240
gtggaaacttt ggggctaacgc ctcccccaa tggtaactta gaagacacct acagatatgt	300
gcagtcgccg gctatttaccat gtcaaaaacc tacgcctgat aaagcaaaagc ccaatcccta	360
tgcaaaattta agtttttggg aagttaaact taaggaaaaa ttttctagtg aatta	415

<210> SEQ ID NO 462

<211> LENGTH: 415

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype 82 (6536-6950/415 bp)

<400> SEQUENCE: 462

catttgtctgg aataatcagc tttttattac ttgtgttgac actactaaaa gtaccaattt	60
aaccattagc actgtctgta ctccatctgt tgcacaaaca ttactccag caaacittaa	120
gcagtacatt aggcattgggg aagaatatga attgcaattt atatttcaat tgtgtaaaat	180
cactttaact actgaattta tggcttacct gcacaccatg gattctacaa ttttagaaca	240
gtggaaatttt ggatttaacat tggccccctc cgctagtgtg gaggatgcct atcgatttgt	300
aaaaaatgca gcaacatcct gtcaaaagga cagtcctcca caggctaaag aagacccttt	360
ggcaaaatat aaatttttggga atgtagacct taaggaaacgc ttttctttgg atttg	415

<210> SEQ ID NO 463

<211> LENGTH: 412

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype CP8061 (21-432/412 bp)

<400> SEQUENCE: 463

```
catttggtgg ggcaatcagc ttttgtaac agttgtggac acatcacgta gtacaaatat    60
gtccatcigt gctacaaaaa ctgttgagtc tacatataaa gcctctagtt tcatggaata    120
tttgagacat ggagaagaat ttgatttga atttataatt caactatgtg ttattaattt    180
aacagctgaa attatggcct acttacatcg catggatgct acattactgg aggactggaa    240
ttttgggttc ttaccacctc ctactgctag tcttgggtgat acctaccgct ttttacagtc    300
tcaggccata acctgtcaga aaaacagtc tctctctgca gaaaaaaagg acccctatgc    360
agatcttaca ttttgggagg tggattttaa ggagcgggtt tactagaat tg            412
```

<210> SEQ ID NO 464

<211> LENGTH: 412

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype CP8304 (21-432/412 bp)

<400> SEQUENCE: 464

```
tatttggtgg tttaatgaaa tgtttgttac agtgggtggat actaccagaa gcaccaattt    60
tactatttgc acagctacat ctgctgctgc agaatacaag gcctctaact ttaaggaatt    120
tctgcgcat acagaggaat atgatttga gtttatttcc caattatgta aaatacagtt    180
aacaccagaa attatggcct acttacataa tatgaacaag gcactgttgg atgattggaa    240
ttttgggtgt ttgccacctc ctccaccag tttagatgac acatatcgct ttttacagtc    300
tcgggccatt acctgtcaaa aggggtgctgc tgcccctgcg ccaaagagg acccttatgc    360
cgacatgtca ttttgacag ttgacctaa ggacaagttg tctactgatt tg            412
```

<210> SEQ ID NO 465

<211> LENGTH: 350

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype L1AE5 (11-360/350 bp)

<400> SEQUENCE: 465

ggcacaacca attatttata actgiggtag acacaacacg tagtaccaat cttaccttat	60
ctactgcaac tactaatcca gtcccatcta tataatgaacc tctaaaattt aagggaataca	120
cacgccatgt agaggaaatat gatttacaat ttatatitca atttgtaaa attacactta	180
ctaetgatgt tatgtcttat atacataaca tggatccctac tatittagat agtigggaatt	240
ttggtgttag tcttccccca tctgctagct tagtagatac atataggttt ttacagtcac	300
ctgccattac atgtcagaag gatgtggttg ttccacaaaa aaaggatcca	350

<210> SEQ ID NO 466

<211> LENGTH: 415

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype MM4 (21-435/415 bp)

<400> SEQUENCE: 466

catttgctgg aataatcagc tttttattac ttgtgttgac actactagaa gtaccaattt	60
aaccatttagc actgctgtta ctcaatctgt tgcacaaca tttactccag caaacittaa	120
gcaatcacatt agggcatgggg aagaatatga attgcaattt atatttcaat tgtgtaaaat	180
cacttlaact actgaaatla tggcttacct gcacaccatg gattctacaa ttttagaaca	240
gtgggaatttt ggattaaacct tgccccctc agctagtitt gaggatgcct atcgatttgt	300
aaaaaatgca gcaacatcct gtcacaagga cagtcctcca caggctaac aagacccttt	360
ggcaaaaat ataatittgga atgtagacct taagggaacgc ttttctttgg atttg	415

<210> SEQ ID NO 467

<211> LENGTH: 412

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype MM7 (21-432/412 bp)

<400> SEQUENCE: 467

catttgttgg tttaatgagt tatttgttac agttgtagat actaccgcga gtaccaatat	60
tactatttca gctgctgtca cacaggctaa tgaatacaca gcctctaact ttaaggaata	120
ccctccgccac accgaggaat atgacttaca ggttatattg caactttgca aaatacatct	180
tacccttgaa attatggcat acctacatag tatgaatgaa catttatitgg atgagtggaa	240
ttttggcgtg ttaccaccct ctccaccag ccttgatgat acctatcgt atctgcagtc	300
ccgtgctatt acctgccaaa agggctcttc cgccccgtcc cctaaaaagg atccittatga	360

tgcccttgta ttttgggagg ttgatttaaa ggacaaacta tccacagatt tg

412

<210> SEQ ID NO 468

<211> LENGTH: 412

<212> TYPE: DNA

<213> ORGANISM: Human Papilloma Virus subtype MM8 (21-432/412 bp)

<400> SEQUENCE: 468

```
tatatgctgg tttaatcaat tgtttgtcac ggtggtggat accaccgca gcaccaattt    60
tactattagt gctgctacca acaccgaatc agaataataa cctaccaatt ttaaggaata .. 120
cctaagacat gtggaggaat atgatttgca gtttatattc cagtttgtta aggtccgtct    180
gactccagag gtcatgtcct atttacatac tatgaatgac tccttattag atgagtggaa    240
ttttggtgtt gtgcccctc cctccacaag tttagatgat acctataggt acttgcagtc    300
tcgcgccatt acttgccaaa agggggccgc cgccccaag cctaagggaag atccttatgc    360
tggcatgtcc ttttgggatg tagatttaaa ggacaagttt tctactgatt tg            412
```

<210> SEQ ID NO 469

<211> LENGTH: 15

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
oligonucleotide

<400> SEQUENCE: 469

tttttttttt ttttt

15

<210> SEQ ID NO 470

<211> LENGTH: 21

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic

oligonucleotide

<400> SEQUENCE: 470

gcccagactg tgggtggcag

20

<210> SEQ ID NO 471

<211> LENGTH: 21

<212> TYPE: DNA

<213> ORGANISM: Artificial Sequence

<220> FEATURE:

<223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
oligonucleotide

<400> SEQUENCE: 471

ccaccaactg cttagcacc c

21

<210> SEQ ID NO 472

<211> LENGTH: 20

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